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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Bruce P. Swaybill
Serial No.: 10/537,605
Filed: 06/03/2005
Group Art Unit: 3654
Examiner: Kruer, Stefan
Title: INTEGRATED SUPPORT FOR ELEVATOR
MACHINE, SHEAVES AND TERMINATIONS

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellant now submits its brief in this appeal. A credit card payment form in the amount of \$540.00 is enclosed. The Commissioner is authorized to charge Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds for any additional fees or credit the account for any overpayment.

Real Party in Interest

The real party in interest is Otis Elevator Company, which is a business unit of United Technologies Corporation.

Related Appeals and Interferences

There are no related appeals or interferences.

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Claims 1-3, 6-10, 13, 14, 16 and 22 are pending. All of these claims except for claim 7 are on appeal. Claim 7 is allowed.

Claims 4, 5, 11, 12, 15, 17-21 and 23-25 have been cancelled.

Claims 1, 6 and 22 stand rejected under 35 U.S.C. §103 as being unpatentable over United States Patent No. 4,807,723 (the *Salmon* reference) in view of United States Patent Application Publication U.S. 2002/0185338 (the *Bauer* reference).

Claim 2 is rejected under 35 U.S.C. §103 as being unpatentable over the *Salmon* reference in view of the *Bauer* reference and in further view of U.S. Patent No. 4,537,286 (the *Morris* reference).

Claims 3 and 8-9 stand rejected under 35 U.S.C. §103 as being unpatentable over the *Salmon* reference in view of the *Bauer* reference and in further view of U.S. Patent No. 5,361,873 (the *de Jong* reference).

Claims 10, 13, 14 and 16 stand rejected under 35 U.S.C. §103 as being unpatentable over the *Salmon* reference in view of the *de Jong* reference and in further view of United States Patent Application Publication US 2002/0017434 (the *Orrman* reference).

Status of Amendments

There are no unentered amendments.

Summary of Claimed Subject Matter

An exemplary embodiment upon which independent claim 1 reads is shown in Figures 1-3. A support device 30 for a machine-roomless elevator system 20 comprises a machine supporting portion 32 that secures a machine 34 comprising a motor in a selected position in a hoistway 26. (Page 3, lines 15, 21-22 and 28-30) A termination supporting portion 42 secures a plurality of

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termination members 44 in a selected position. The termination members 44 are configured to secure an end of associated load bearing members 28 near the selected position. (Page 4, lines 3-5) A sheave supporting portion 40 supports at least one sheave 38. (Page 3, lines 30-31) The supporting portions 32, 40 and 42 are secured together to form a single structure 30 that supports the machine 34, the termination members 44 and the sheave 38. The single structure 30 is located inside the hoistway 26. The supporting portions each comprise a plurality of metal sheets. (Page 4, lines 14-15; page 5, lines 10-15; Figure 3)

Exemplary embodiments upon which independent claim 16 reads are shown in Figures 1-3 and Figures 5 and 6. According to claim 16, a machine-roomless elevator system 20 comprises a machine 34 having a motor and a drive sheave 120 inside a hoistway 26. (Page 3, lines 15-16 and lines 28-30) At least one idler sheave 38 is in the hoistway 26. (Page 3, line 30) An elevator cab 24 is supported for movement in the hoistway. (Page 3, line 16) A counterweight 22 is supported for movement in the hoistway 26. (Page 3, lines 15-16) A plurality of elongated load bearing members 28 are associated with the cab 24 and the counterweight 22. The load bearing members 28 are moveable about the drive sheave 120 and the idler sheave 38 in response to operation of the machine 34. (Page 3, lines 17-20) A plurality of terminations 44 are associated with ends of the load bearing members 28. (Page 4, lines 3-7) A single support device 30 in the hoistway 26 supports and secures the machine 34, idler sheave 38 and terminations 44 in a desired position inside the hoistway 26 relative to the cab 24 and the counterweight 22. (Page 3, lines 21-24 and 28-31; page 4, lines 3-13) The idler sheave 38 and the drive sheave 120 are positioned relative to each other so that the elongated load bearing members 28 extend vertically, deflect about the idler sheave 38 in a generally horizontal direction and then are wrapped at least 180° around the drive sheave

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120. The idler sheave 38 and drive sheave 120 rotate about parallel axes. (Figure 6; page 7, lines 5-11)

An exemplary embodiment upon which independent claim 22 reads is shown in Figures 3 and 4, for example. A support device 30 for an elevator system 20 comprises a machine supporting portion 32 that secures a machine 34 comprising a motor and a drive sheave 120 in a selected position. (Page 3, lines 15, 21-22 and 28-30) A termination supporting portion 42 secures a plurality of termination members 44 in a selected position. (Page 4, lines 3-5) A sheave supporting portion 40 supports at least one sheave 38. (Page 3, lines 30-31) The supporting portions 32, 40, 42 each comprise a plurality of metal sheets secured together. The supporting portions 32, 40, 42 are secured together to form a single structure that supports the machine 34, the termination members 44 and the sheave 38. (Page 3, lines 21-24; page 4, lines 14-15; page 5, lines 10-15; Figure 3)

Grounds of Rejection to be Reviewed on Appeal

Claims 1, 6 and 22 stand rejected under 35 U.S.C. §103 as being unpatentable over United States Patent No. 4,807,723 (the *Salmon* reference) in view of United States Patent Application Publication U.S. 2002/0185338 (the *Bauer* reference).

Claim 2 is rejected under 35 U.S.C. §103 as being unpatentable over the *Salmon* reference in view of the *Bauer* reference and in further view of U.S. Patent No. 4,537,286 (the *Morris* reference).

Claims 3 and 8-9 stand rejected under 35 U.S.C. §103 as being unpatentable over the *Salmon* reference in view of the *Bauer* reference and in further view of U.S. Patent No. 5,361,873 (the *de Jong* reference).

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Claims 10, 13, 14 and 16 stand rejected under 35 U.S.C. §103 as being unpatentable over the *Salmon* reference in view of the *de Jong* reference and in further view of United States Patent Application Publication US 2002/0017434 (the *Orrman* reference).

ARGUMENT

There is no *prima facie* case of obviousness against Appellant's claims on appeal. In some cases, the Examiner's proposed combination cannot be made. Even where the combination can be made, the result is not the same thing as recited in the applicable claims and, therefore, there is no *prima facie* case of obviousness.

There is no *prima facie* case of obviousness against claims 1, 6 and 22 based upon the proposed combination of the *Salmon*, *et al.* and *Bauer* references.

The proposed combination does not establish a *prima facie* case of obviousness. Even if the *Salmon*, *et al.* and *Bauer* references could be combined, the result is not what the Examiner contends and does not establish a *prima facie* case of obviousness. *Bauer* does not teach supporting portions that each comprise a plurality of metal sheets secured together. Therefore, even if the proposed combination could be made, the result is not the same as the claimed invention and there is no *prima facie* case of obviousness. The Examiner relies on paragraph 17 of the *Bauer* reference. All that *Bauer* says is that the frame 15.1 is "made of sections and a mounting plate 15.2." That does not constitute teaching using a plurality of metal sheets secured together for each of the supporting portions as recited in Applicant's claim 1. A single metal plate might reasonably be interpreted as a metal sheet but that is not a plurality of metal sheets. *Bauer* also fails to provide any teaching for how to secure "metal sheets" together to form the supporting portions of Appellant's claims 1 and 22. Moreover, Appellant uses "metal sheet" as distinct from traditional metal beams or tubes when reciting that in claims 1 and 22. Therefore,

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even if the proposed combination could be made, the result is not the same as Applicant's claimed invention and there is no *prima facie* case of obviousness. The rejection of claims 1, 6 and 22 should be reversed.

There is no *prima facie* case of obviousness against Claim 2 based upon the proposed combination of *Salmon, et al.*, *Bauer* and *Morris, et al.*

The proposed combination cannot be made. The Examiner is effectively using the *Morris, et al.* reference to modify the arrangement of the *Bauer* reference in a manner that violates MPEP 2143.01(V) and (VI). The *Bauer* reference requires a particular arrangement of components to achieve its intended purpose and to operate according to its disclosed principle of operation. If one were to rearrange the *Bauer* reference, it would not operate as intended and the required reason for modifying the combined *Salmon, et al.* and *Bauer* references with the teachings of *Morris, et al.* does not exist. In other words, the proposed combination cannot be made because it would rearrange the components of the *Bauer* reference in a manner that would interfere with the principle of operation of that reference.

The *Bauer* reference specifically requires separated, supported terminations on a "counterweight side" and an opposite "car side" of the hoistway. The Examiner is proposing to change that configuration to somehow render it consistent with Applicant's claim 2. As acknowledged by the Examiner, the *Bauer* reference specifically separates two different terminations on opposite sides of a hoistway. The *Morris, et al.* reference provides a single location for a plurality of terminations. Therefore, using *Morris'* teaching to modify the combination of *Salmon, et al.* and *Bauer* would eliminate the required separation of terminations in the *Bauer* reference. That cannot be done as explained in MPEP 2143.01.

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Additionally, the *Morris, et al.* reference does not provide any suggestion for how to incorporate a second termination supporting portion into a single structure. It does not teach using more than one termination supporting portion but, instead, teaches a way of arranging a pattern of terminations to reduce a cross-sectional area occupied by the ropes at *Morris, et al.*'s hitch plate. Therefore, even if one could add the teachings of the *Morris, et al.* reference to the proposed combination of the *Salmon, et al.* and *Bauer* references, the result would not be what the Examiner contends.

The only possible justification for taking the teachings of the *Salmon, et al.*, *Bauer* and *Morris, et al.* references and attempting to combine them in the manner suggested by the Examiner is hindsight reasoning based upon Applicant's disclosure and claims. That cannot be a basis for establishing a *prima facie* case of obviousness and, therefore, none exists against claim 2.

**There is no *prima facie* case of obviousness against
Claims 3 and 8-9 based upon the proposed combination
of *Salmon, et al.*, *Bauer* and *de Jong, et al.***

As noted above, *Salmon, et al.* and *Bauer* do not establish a *prima facie* case of obviousness against Claim 1. The proposed addition of the teachings of *de Jong, et al.* does not remedy the defect in the Examiner's proposed combination of *Salmon, et al.* and *Bauer*. Therefore, even if it were possible to make the proposed combination, there is no *prima facie* case of obviousness against claims 3 and 8-9 for the same reasons explained above for why there is no *prima facie* case of obviousness against Claim 1.

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There is no *prima facie* case of obviousness against any of Claims 10 and 13-16 based upon the proposed combination of *Salmon, et al.*, *de Jong, et al.* and *Orrman, et al.*

The proposed combination cannot be made because it would change the principle of operation of the *Salmon, et al.* reference and render it unsuitable for its intended purpose. MPEP 2143.01(V) and (VI) explains that a proposed modification to a reference cannot be made for purposes of attempting to establish a *prima facie* case of obviousness where that change would render the arrangement of the reference unsuitable for its intended purpose or change its principle of operation.

As the Examiner acknowledges in the final action, the *Salmon, et al.* reference requires a particular angular offset between the sheaves of that reference. What the Examiner fails to acknowledge, however, is that modifying the reference in the Examiner's proposed manner and removing that angle from the *Salmon, et al.* arrangement is not permissible when attempting to manufacture a *prima facie* case of obviousness. That cannot be done because then the *Salmon* arrangement would no longer work as intended. The only way the *Salmon, et al.* reference can achieve its intended interleaved roping arrangement (i.e., perform its intended function and operate according to its intended principle of operation) is to keep that particular angular offset between the sheave axes. If one were to modify the *Salmon, et al.* reference to be consistent with the *de Jong, et al.* reference and have parallel axes between the sheaves, the *Salmon, et al.* arrangement would no longer work. The Examiner is wrong when asserting that *de Jong's* arrangement is a substitute for *Salmon's*. The proposed modification completely alters the *Salmon* reference, which is not possible.

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A proposed modification that renders the teachings of a reference unworkable and unusable for its intended purpose cannot be made. Therefore, there is no *prima facie* case of obviousness the rejection of claim 16 and its dependents must be reversed.

CONCLUSION

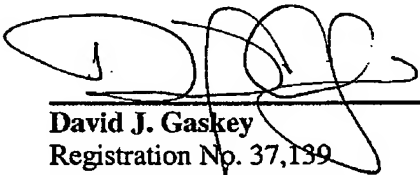
There is no *prima facie* case of obviousness against any of Appellant's claims. The rejections should be reversed.

Respectfully submitted,

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October 28, 2008

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CERTIFICATE OF FACSIMILE

I hereby certify that this Appeal Brief, relative to Application Serial No. 10/537,605, is being facsimile transmitted to the Patent and Trademark Office (Fax No. (571) 273-8300) on October 28, 2008



Theresa M. Palmateer

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1. A support device for a machine-roomless elevator system, comprising:
 - a machine supporting portion that secures a machine comprising a motor in a selected position in a hoistway;
 - a termination supporting portion that secures a plurality of termination members in a selected position, the termination members being configured to secure an end of associated load bearing members near the selected position; and
 - a sheave supporting portion that supports at least one sheave, the supporting portions being secured together to form a single structure that supports the machine, the termination members and the sheave, the single structure being located inside the hoistway, the supporting portions each comprise a plurality of metal sheets secured together.
2. The device of claim 1, including a second termination supporting portion that secures a second plurality of termination members in a selected position and wherein one of the pluralities of termination members are associated with an elevator cab and the other plurality of termination members are associated with a counterweight.
3. The device of claim 1, including a second sheave supporting portion that supports a second sheave.
- 4-5. (Cancelled)
6. The device of claim 1, wherein the machine supporting portion and the sheave supporting portion comprise two lateral beam members.

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7. A support device for a machine-roomless elevator system, comprising:
a machine supporting portion that secures a machine comprising a motor in a selected position in a hoistway;
a termination supporting portion that secures a plurality of termination members in a selected position; and
a sheave supporting portion that supports at least one sheave, the supporting portions being secured together to form a single structure that supports the machine, the termination members and the sheave, the single structure being located inside the hoistway, the machine supporting portion and the sheave supporting portion comprise two lateral beam members spaced from each other and the termination supporting portion comprises at least one transverse member extending between and secured to the lateral beam members, the machine resting directly on the two lateral beam members with a sheave portion of the machine being rotatable about an axis that is perpendicular to the two lateral beam members, the sheave portion of the machine being vertically aligned with a space between the two lateral beam members, the at least one sheave being rotatable about an axis that is perpendicular to the two lateral beam members, the at least one sheave being vertically aligned with the space between the two lateral beam members.
8. The device of claim 1, including two spaced lateral beam members, at least one transverse beam member extending between and secured to the lateral beam members near each end of the beam members, and a mounting member near each end of each of the lateral beam members, the mounting members adapted to secure the device to a structure that carries a load of the device and associated elevator system components.
9. The device of claim 8, including a plurality of vertical brace members secured to each of the mounting members and corresponding portions of the lateral beam members.

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10. The machine-roomless elevator system of claim 16, wherein the support device includes

two lateral beam members that provide support for the machine and the idler sheave, the lateral beam members are spaced from each other and

at least one transverse member extending between and secured to the lateral beam members for supporting the terminations.

11-12. (Cancelled)

13. The system of claim 10, including a second transverse member extending between and secured to the lateral beam members for supporting a second plurality of termination members and wherein the transverse members are secured to the beam members near longitudinal ends of the beam members, respectively.

14. The system of claim 16, wherein the support device comprises a plurality of metal beam members.

15. (Cancelled)

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16. A machine-roomless elevator system, comprising:
a machine having a motor and a drive sheave inside a hoistway;
at least one idler sheave in the hoistway;
an elevator cab supported for movement in the hoistway;
a counterweight supported for movement in the hoistway;
a plurality of elongated load bearing members associated with the cab and the counterweight, the load bearing members being moveable about the drive sheave and the idler sheave in response to operation of the machine;

a plurality of terminations associated with ends of the load bearing members; and
a single support device in the hoistway that supports and secures the machine, idler sheave and terminations in a desired position inside the hoistway relative to the cab and counterweight;

the idler sheave and the drive sheave are positioned relative to each other so that the elongated load bearing members extend vertically, deflect about the idler sheave in a generally horizontal direction and then are wrapped at least 180° around the drive sheave, the idler sheave and drive sheave rotate about parallel axes.

17-21. (Cancelled)

22. A support device for an elevator system, comprising:
a machine supporting portion that secures a machine comprising a motor and a drive sheave in a selected position;

a termination supporting portion that secures a plurality of termination members in a selected position; and

a sheave supporting portion that supports at least one sheave, the supporting portions each comprising a plurality of metal sheets secured together, the supporting portions being secured together to form a single structure that supports the machine, the termination members and the sheave.

23-25. (Cancelled)

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EVIDENCE APPENDIX

None.

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RELATED PROCEEDINGS APPENDIX

None.